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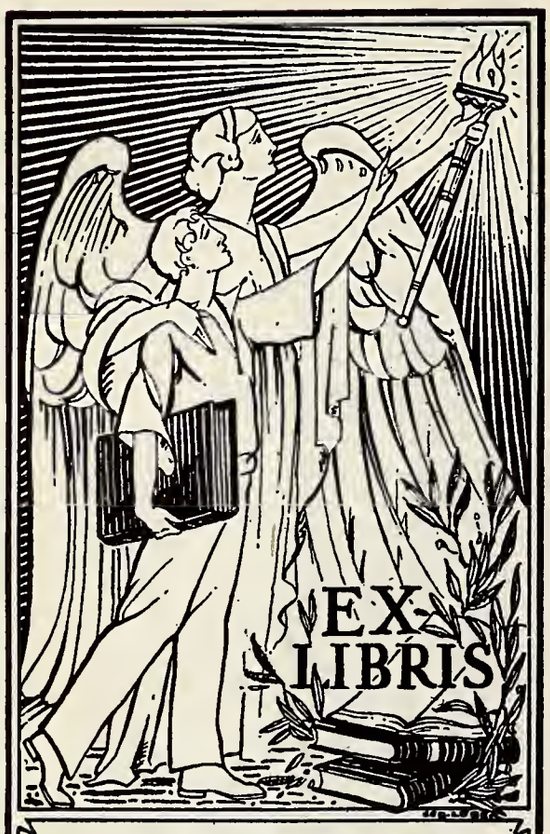

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BLINDNESS is the ultimate result of trachoma. The disease begins with a chronic type of inflammation of the membrane lining the inner surface of the eyelid, the conjunctiva. It progresses with the formation of innumerable heapings of the tissue, which are called granulations. These granulations line the inner surface of the eyelids and should not be confused with the crusts and scales which sometimes adhere to the eyelashes and edges of the lids, and which belong to an innocuous affection known as blepharitis. The granulations rub the eyeball, inducing not only inflammation of its membrane, the bulbar conjunctiva, but inflammation of the clear, crystal-like structure of the front of the eye. This structure, which is known as the cornea, is normally transparent, but as the disease progresses it becomes more and more opaque, and alteration in sight is directly due to involvement of this structure.

As the granulations progress in their course, they are replaced by scar tissue. Scar tissue is always contracting, and as a result a great many deformities of the eyelids follow. The lids may be turned in or out, up or down, and the eyelashes may be turned in or out, or a second line of them may come into being. All these changes affect the already diseased cornea very materially.

Through the interest of General Pratt, then superintendent of the Carlisle Indian School, the disease among these wards of the government was first brought to my attention about thirty years ago. Until the closure of the school these pupils were under my observation.

Up to this time (thirty years ago) the disease was considered only as regards our white population. Negroes had been shown to enjoy comparative immunity from it, and the other races were not considered. After a few cases of the disease had been found at the Carlisle School, a more careful survey was made with most astounding results. The cases brought to my attention were mostly from the tribes in the Southwest. Other investigators went over the ground in the Indian agencies throughout the country, and many more cases were brought to light.

Origin a Mystery

Just when the disease began with the North American Indian is a puzzle to all the scientists. It had been attributed to contact with infected persons among the Spanish conquerors, and again to intermingling with the "white Indians," the mythical lost tribes of Israel. Dr. Benjamin Rush in a book published in 1774 concerning their ills makes no mention of it. Lewis and Clark noted in 1804 that sore eyes were prevalent among the Indians in the Northwest. The bureau of Indian affairs believes that the Hudson Bay Company was responsible for its introduction. George Catlin, the prolific writer on Indian affairs in the decade preceding the Civil War, makes no mention of this or similar diseases.

Chief Heavy Breast and a physician are examining the eyes of a boy with marked trachoma. This child attends school in a class of twenty-five pupils. At the time the photograph was taken, he was at the Blackfoot Hospital for a trachoma operation.

Only one fact can be elicited from a careful perusal of tons of literature on the Indians: When the Indians were assigned to boarding schools and other institutions, this disease and tuberculosis made their appearance with great virulence, and from this time on recessions and recurrences alternated with each other. Contact with the white man proved most disastrous.

A visit to the Alaskan tribes in 1904 showed the disease to be present among these people also. This very materially complicates our theories as to the origin of the disease. It is likely that the close community life rendered necessary by the hardships of the climate has a great deal to do with the production of the cases among these people.

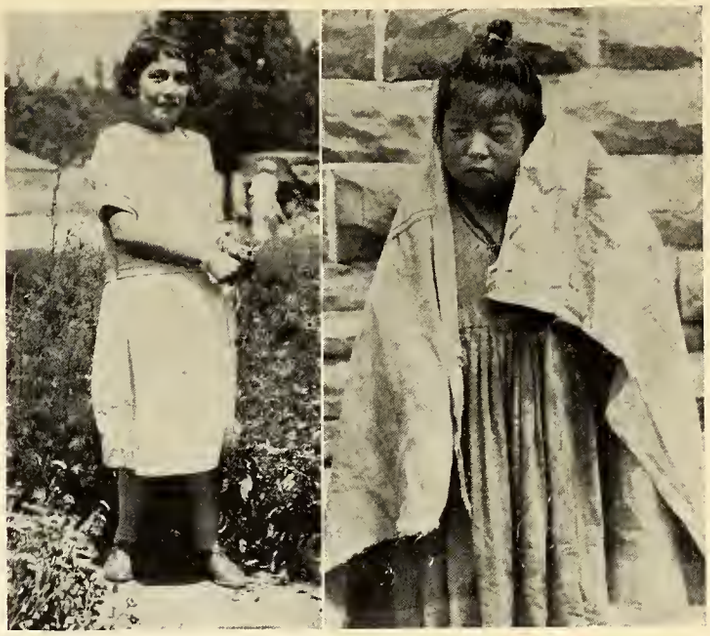
Since blindness is the ultimate result of the disease, its consideration is absolutely necessary from an economic as well as a humanitarian standpoint. A close student will be amazed to learn how few trustworthy recorded observations there were in regard to this disease up until about thirty years ago, although the Indians were a part of our permanent population, were wholly under the jurisdiction of the federal government for almost a century, and their life and habits permitted of continuous surveillance.

Trachoma Patients Hard to Control

In ordinary civil life it is with the greatest difficulty that we can control patients with this disease. Ordinary quarantine is an unnecessary hardship, and ordinary socializing is impossible. The patients drift from hospital to hospital, from town to town, so that in calculating the number of cases, we find the same patient appearing in many of the tables presented, thus duplicating and reduplicating the total number. This is less difficult with the Indians, since the federal government enjoys unhampered authority, even though for reasons of expediency it does not always exercise this authority to the extent of attempting to compel surgical operations. This it could not do under the Constitution, but such educational and persuasive work as would accomplish the same end is rendered easier of accomplishment by the fact that the federal authorities know just where the tribes are and how many there are in each tribe. There is no duplication, and the migration of the patients is a negligible factor.

For some unknown reason this very valuable feature of the Indian problem seemed to have escaped the attention of the medical profession both within and without the service until the last decade. The recognition of this factor has led to a remarkable change for the better, especially within the last five years.

The best that can be obtained from early government records is the occasional mention of sore eyes at some agency. It is difficult to identify such reference with trachoma, but there



Photos by C. L. Walker, U. S. Indian Field Service

May Platero is a typical government school pupil who has been properly cared for. Little Yealth-na-bah, at the right, has had none of the advantages of civilization and government schools. She is almost totally blind with trachoma and pannus. She and her grandmother ran away from the trachoma clinic after only a few treatments and have not yet been found.

is among some of these tribes the knowledge of a kind of grattage operation that was performed by some of the medicine men, using an improvised scraping instrument made from a section of a reed which had one edge sharpened by rubbing it on an abrading surface, or by scraping it to thinness with a piece of glass. Sharp-edged reed leaves cut in short pieces so that they would not bend were also used. The modern treatment of the disease calls for the early eradication of the granulations by scarifying them and then rubbing them down to their base with a toothbrush. Consequently it is significant that we should find medicine men employing an almost similar method; we know nothing of the origin of their treatment.

Prevalence in Some Groups Appalling

After recourse to more than thirty writers of prominence on Indians concerning the disease, as well as personal communications with missionaries and other competent observers, I am able to determine only one reliable bit of information: From time to time during the last sixty years, there have occurred pronounced epidemics of eye diseases—epidemics that spread with great rapidity through the tribes and then subsided. Epidemics of like character recurred when the children of the tribes were sent to the government boarding schools. During the last ten years the disease has made its appearance in a most virulent form.

In 1923, in the little group of 1,168 Indians living near Glacier National Park, the physicians of the Indian Bureau found 351 cases of

the disease. One can picture the consternation that would arise should the Leviathan, whose capacity is far greater than the Indian population here mentioned, bring to quarantine in New York bay any fractional part of that number of cases of trachoma. When the government completed its survey of the condition in the fall of 1924, the record showed that 27,856 cases had been diagnosed as trachoma. This places our Indian population in the group of the trachoma countries.

The disease appears in two principal types — the acute granular and the cicatricial. The granular type among the Indians is unquestionably the most pronounced granular form of conjunctivitis I have ever observed. The mild forms seen in the Eastern cities somewhat dull one's appreciation of how violent and virulent this affection may become, and the student of the disease could do no better than to stop off at one of these reservations to observe a few of these cases.

Nearly blind from trachoma, this Indian uses a fancy hat for protection from the light.

The disease is considered contagious. To call it infectious is much better, but it weakens the emphasis that I should like to place on certain features of the preventive treatment. In the early stages, when granulations and discharge abound, the possibility of transmitting it to others in the same community is very great.

Hard to Teach Indian Cleanliness

But the reading of popular health magazines is not one of the pastimes of the Indian family in its natural habitat. Only by personal contact, and then only through some one in whom the Indian has implicit confidence, can the message of personal cleanliness be brought home to these people. The common custom of the squaw to wipe the discharge fr the baby's eye with the hem of l none too clean skirt is a factor its spread that challenges the v lance of the entire governmen force. The teaching of perso hygiene to the youngsters of sch age is also to be placed alongs of the herculean labors.

In the presence of this disco agement along the line of prev tion, the disease has spread l wildfire. The Indian Bureau, h ing noted that certain of the ca in the granulating stage were r dered inert, so far as transmitt the disease is concerned, decic on a plan to treat them as nea as possible all at once. To do t the field work was greatly el orated.

I recommended the radical tre ment for most of my own patie and advised the same for the In ans after having seen these la groups of patients with the disease. The ope tion called grattage had given the best resu in the early cases, and the immediate specta lar results following it with the Indians w them over to submitting to it.

The best means of combating the resist cases is the removal of the cartilage in t offending eyelid. This renders the lid flacc whereas before it was stiff and tight. Eyeli that have drooped before will permit of bei raised by the patient, and the irritation a inflammation of the cornea will subside. T patient who has been practically blind will able to go about unaided.

On the whole, the experience I have had this work has been most gratifying. I cann speak too highly of the interest that Co missioner Charles H. Burke and his associat have taken in this matter, and this intensi campaign is showing the value of their effor

A typical Navajo hogan. This is much the kind of a home in which little Yealth-na-bah lives.